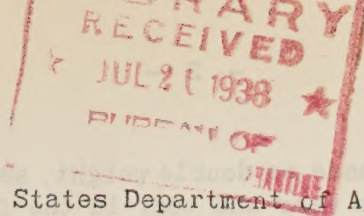


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Bureau of Entomology and Plant Quarantine

A METHOD OF KEEPING RECORDS ON REPLICATED PLOTS

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In making field applications of insecticidal dusts to experimental plots it is a problem to keep a record of the plots and the various materials used thereon, especially if there are numerous plots and replications. Much time and many steps can be saved if each applicer has a chart of the field in his pocket for ready reference while making the application. This problem has been solved satisfactorily for field plots in tomatoes, and it is believed that the method used can be applied to advantage in other crops.

In the case of tomatoes, a map of the field is drawn on coordinate paper with orange lines (blue lines were not satisfactory, as they did not show in the photograph) and with the small squares 8 by 8 or 10 by 10 to the inch. In most fields each small square represented one tomato plant. In southern California tomatoes are usually planted 6 by 6 or 8 by 8 feet apart, or variations thereof. When the plants are set on the square (6 by 6, 7 by 7, or 8 by 8 feet apart) a true scale map of the field is produced; with variations of the dimensions (6 by 7, 6 by 8, and 7 by 8) a somewhat distorted map results, but this did not prove to be disadvantageous in use. In other fields where the plants were not checked in the rows, each square was allowed to represent one row and a length in that row equal to the distance between the rows. In one field where the plants were set 3 feet in rows 6 feet apart, each small square represented two plants.

The map is drawn on the coordinate paper with India ink, and the plots are outlined and numbered. The map is then photographed (with Process film) and reduced in size to 5 by 7 inches or less. A field as large as 35 acres has been drawn and reduced to this size satisfactorily.

The prints are made on double weight, semi-matte paper; double weight to withstand the wear and tear in the field and semimatte so that the face can be written on with ink. One print is made for each material to be used in the field (fig. 1), and if there is a variation in the number of applications for any one material, a print is made for each application (figs. 3, 4, and 5). The materials to be used are then written or printed on the face of the print, and the numbers of the plots that are to receive a given material are circled with ink or blocked in with colored pencil, or both. The back of the print is used for keeping a record of the time of application, the amount used, and the name of the applier (fig. 2).

When operating in the field, the applier fills his duster with the material, weighs the duster and records the weight on the back of the print, puts the print in his pocket so that he can have it to refer to in locating the plots, makes the application, returns and weighs his duster, records the weight on the back, and initials it. The date of application is usually stamped on with a rubber stamp either before or after the application has been made. The prints are perforated and placed in a loose-leaf notebook so that they are held together and can be referred to readily between applications.

Although the method as used is best adapted to dust applications where there are several operators, similar charts were prepared and used in connection with spray plots where there was only one machine and crew in operation.

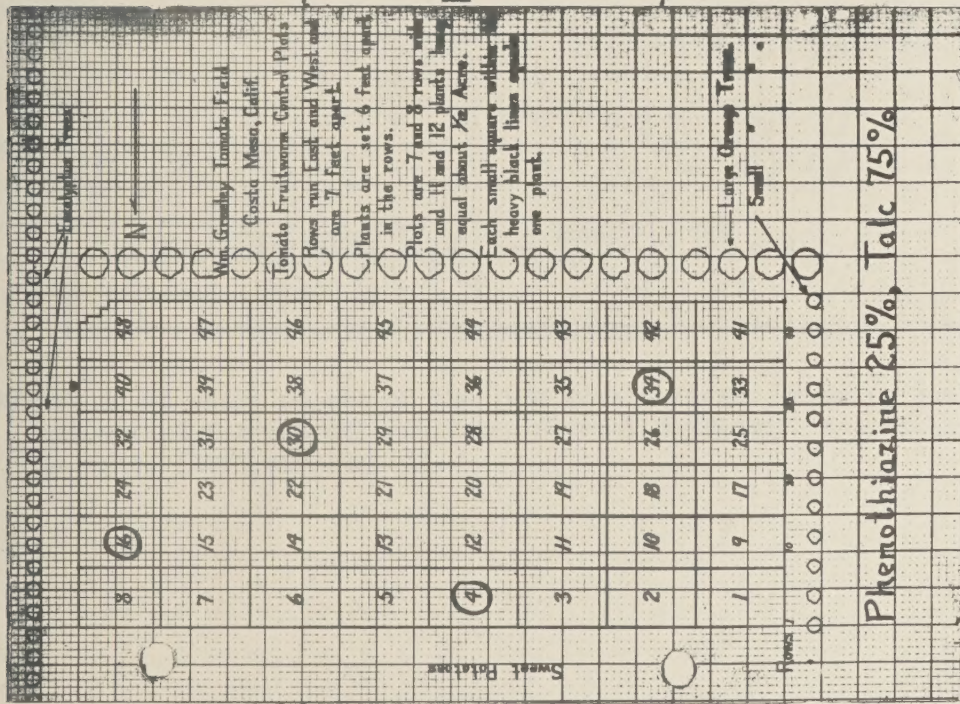


Figure 1.--A chart of one of the 1937 tomato fields, showing how the prints are marked for use with one material.

14# 8⁰²
APR 29 1937
3# 12⁰²

15# 13⁰²
10 10
5# 3⁰²
10
5# 13⁰²

12# 9⁰²
11 15
- 10⁰²

MAY 13 1937

16# 4⁰²
10 5
5# 15⁰²

MAY 29 1937

Figure 2.--The back of figure 1, showing how the application records are kept.

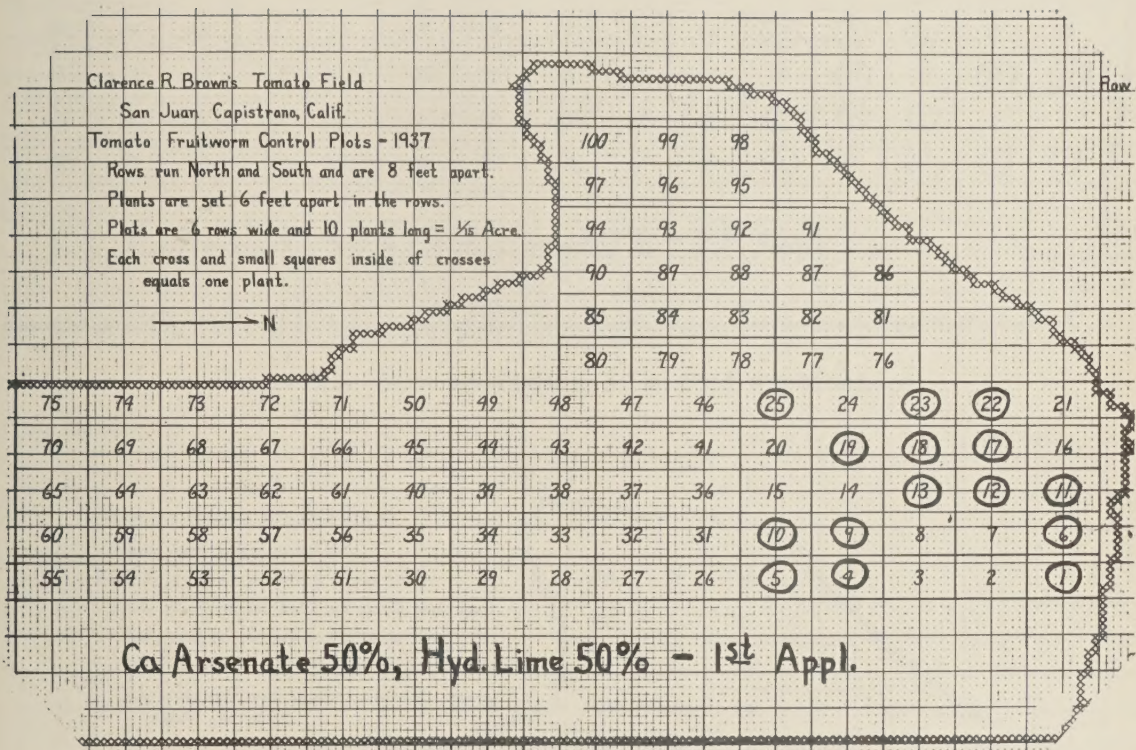


Figure 3.--A chart of one of the 1937 tomato fields, showing how the prints are marked for one material when several different applications are to be made; first application.

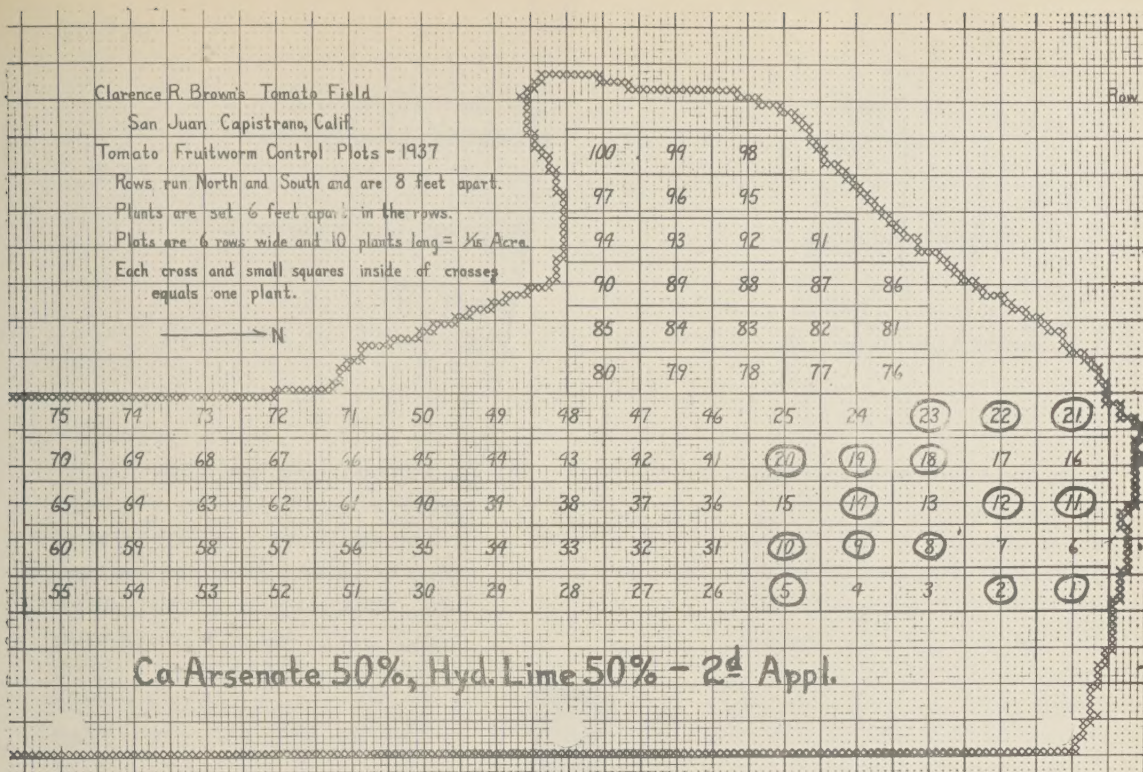


Figure 4.--Same as figure 3; second application.

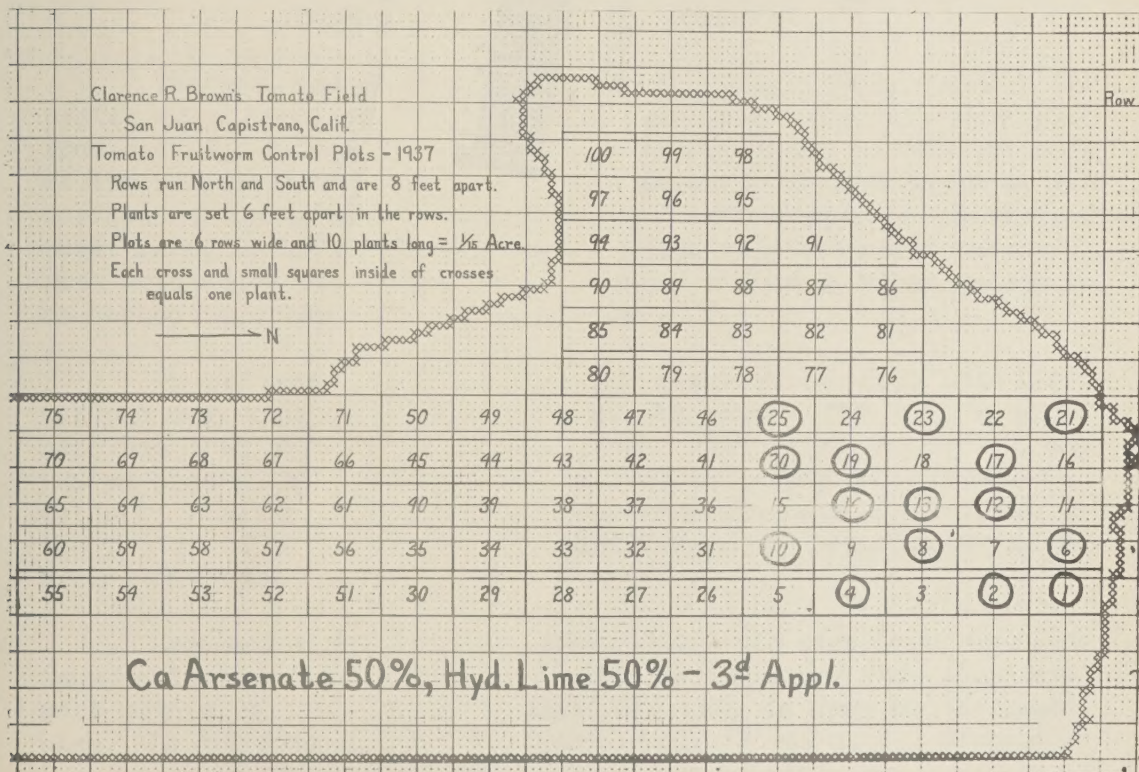


Figure 5.--Same as figures 3 and 4; third application.

